



SEQUENCE LISTING

<110> Davids, Andrew Robert
Fagan, Richard Joseph
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Power, Christine
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Boschert, Ursula

<120> Cytokine antagonist molecules

<130> 674582-2001

<140> US 10/706691
<141> 2003-11-12

<150> PCT/GB03/01851
<151> 2003-04-30

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<151> 2002-04-30

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1 5 10 15
Leu Ala Pro Phe Val Tyr Leu Leu Leu Ile Gln Thr Asp
20 25

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ggcagctgaa gcgggacaag ccagtgaccg tgggtgcagtc cattggcaca gaggtcatcg 180
gcaccctgcg gcctgactat cgagaccgta tccgactctt tgaaaatggc tccctgcttc 240

tcagcgacct gcagctggcc gatgagggca cctatgaggt cgagatctcc atcaccgacg 300
acaccttcac tggggagaag accatcaacc ttactgtaga tg 342

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<212> PRT
<213> Homo sapiens

<400> 4
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1 5 10 15
Thr Val Gly Lys Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser
20 25 30
Ser Asp Arg Pro Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val
35 40 45
Thr Val Val Gln Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro
50 55 60
Asp Tyr Arg Asp Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu
65 70 75 80
Ser Asp Leu Gln Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser
85 90 95
Ile Thr Asp Asp Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val
100 105 110
Asp Val

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<212> DNA
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atggcaagcc cctcctcaat gactcgagaa tgctcctgtc ccccgaccaa aaggtgctca 180
ccatcaccgg cgtgctcatg gaggatgacg acctgtacag ctgcatggtg gagaacccca 240
tcagccaggg ccgcagcctg cctgtcaaga tcaccgtata ca 282

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<211> 94
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<213> Homo sapiens

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Leu Ser Glu Ala Phe Thr Leu Asn Cys Ser His Glu Asn Gly Thr Lys
20 25 30

Pro Ser Tyr Thr Trp Leu Lys Asp Gly Lys Pro Leu Leu Asn Asp Ser
 35 40 45

Arg Met Leu Leu Ser Pro Asp Gln Lys Val Leu Thr Ile Thr Arg Val
 50 55 60

Leu Met Glu Asp Asp Asp Leu Tyr Ser Cys Met Val Glu Asn Pro Ile
 65 70 75 80

Ser Gln Gly Arg Ser Leu Pro Val Lys Ile Thr Val Tyr Arg
 85 90

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 tgacagtctg tgcctgctgg aaaccctcca aaag 94

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 <211> 31
 <212> PRT
 <213> Homo sapiens

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Val Thr Leu Val Thr Val Cys Ala Cys Trp Lys Pro Ser Lys Arg
 20 25 30

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 cctgaaacca gaag 74

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 <211> 25
 <212> PRT
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 1 5 10 15

Asn Asp Asp Arg Leu Lys Pro Glu Ala
 20 25

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 <212> DNA

<213> Homo sapiens

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tgaaggacaa g 71

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<211> 23

<212> PRT

<213> Homo sapiens

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<211> 303

<212> DNA

<213> Homo sapiens

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tctgccccgc gctaccgcg ctcccagcg cgctcccag ccaccggccg gacacactcg 180
tcgccgcca gggccccgag ctgccccggc cgctcgcgca gcgcctcgcg cacactgcgg 240
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<212> PRT

<213> Homo sapiens

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Thr Glu Pro Gly Pro Pro Gly Tyr Ser Val Ser Pro Ala Val Pro Gly
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35 40 45

Pro Ala Arg Ser Pro Ala Thr Gly Arg Thr His Ser Ser Pro Pro Arg
50 55 60

Ala Pro Ser Ser Pro Gly Arg Ser Arg Ser Ala Ser Arg Thr Leu Arg
65 70 75 80

Thr Ala Gly Val His Ile Ile Arg Glu Gln Asp Glu Ala Gly Pro Val
85 90 95

Glu Ile Ser Ala
100

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 <212> DNA
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 cgcttgatcc atggcaccgt ggggaagtcg gctctgcttt ctgtgcagta cagcagtacc 180
 agcagcgaca ggcctgtagt gaagtggcag ctgaagcggg acaagccagt gaccgtggtg 240
 cagtccattg gcacagaggt catcggcacc ctgcggcctg actatcgaga ccgtatccga 300
 ctctttgaaa atggctccct gcttctcagc gacctgcagc tggccgatga gggcacctat 360
 gaggtcgaga tctccatcac cgacgacacc ttactgggg agaagaccat caaccttact 420
 gtagatgtgc ccatttcgag gccacaggtg ttggtggctt caaccactgt gctggagctc 480
 agcgaggcct tcaccttgaa ctgctcacat gagaatggca ccaagcccag ctacacctgg 540
 ctgaaggatg gcaagcccct cctcaatgac tcgagaatgc tcctgtcccc cgacaaaaag 600
 gtgctcacca tcaccgcgt gctcatggag gatgacgacc tgtacagctg catggtggag 660
 aaccccatca gccagggccg cagcctgcct gtcaagatca ccgtatacag aagaagctcc 720
 ctttacatca tcttgtctac aggaggcatc ttcctccttg tgaccttggg gacagtctgt 780
 gcctgtctgga aacctccaa aaggaaacag aagaagctag aaaagcaaaa ctccctggaa 840
 tacatggatc agaatgatga ccgcctgaaa ccagaagcag acacctctcc tcgaagtggg 900
 gagcaggaac ggaagaaccc catggcactc tatatcctga aggacaagga ctccccggag 960
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 tccgtgtctc ccgccgtgcc cggccgctcg ccggggctgc ccatccgctc tgcccgcgc 1080
 taccgcgct ccccagcgcg ctcccagcc accggccgga cacactcgtc gccgccag 1140
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 cacataatcc gcgagcaaga cgaggccggc ccggtggaga tcagcgctg a 1251

<210> 16
 <211> 416
 <212> PRT
 <213> Homo sapiens

<400> 16
 Met Lys Arg Glu Arg Gly Ala Leu Ser Arg Ala Ser Arg Ala Leu Arg
 1 5 10 15
 Leu Ala Pro Phe Val Tyr Leu Leu Leu Ile Gln Thr Asp Pro Leu Glu
 20 25 30
 Gly Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly
 35 40 45
 Lys Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser Ser Asp Arg
 50 55 60
 Pro Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val
 65 70 75 80
 Gln Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg
 85 90 95
 Asp Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu Ser Asp Leu
 100 105 110
 Gln Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp

| 115 | | | | | 120 | | | | | 125 | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Thr | Phe | Thr | Gly | Glu | Lys | Thr | Ile | Asn | Leu | Thr | Val | Asp | Val | Pro |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Ile | Ser | Arg | Pro | Gln | Val | Leu | Val | Ala | Ser | Thr | Thr | Val | Leu | Glu | Leu |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ser | Glu | Ala | Phe | Thr | Leu | Asn | Cys | Ser | His | Glu | Asn | Gly | Thr | Lys | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ser | Tyr | Thr | Trp | Leu | Lys | Asp | Gly | Lys | Pro | Leu | Leu | Asn | Asp | Ser | Arg |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Met | Leu | Leu | Ser | Pro | Asp | Gln | Lys | Val | Leu | Thr | Ile | Thr | Arg | Val | Leu |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Met | Glu | Asp | Asp | Asp | Leu | Tyr | Ser | Cys | Met | Val | Glu | Asn | Pro | Ile | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Gln | Gly | Arg | Ser | Leu | Pro | Val | Lys | Ile | Thr | Val | Tyr | Arg | Arg | Ser | Ser |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Leu | Tyr | Ile | Ile | Leu | Ser | Thr | Gly | Gly | Ile | Phe | Leu | Leu | Val | Thr | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Val | Thr | Val | Cys | Ala | Cys | Trp | Lys | Pro | Ser | Lys | Arg | Lys | Gln | Lys | Lys |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Glu | Lys | Gln | Asn | Ser | Leu | Glu | Tyr | Met | Asp | Gln | Asn | Asp | Asp | Arg |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Leu | Lys | Pro | Glu | Ala | Asp | Thr | Leu | Pro | Arg | Ser | Gly | Glu | Gln | Glu | Arg |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Lys | Asn | Pro | Met | Ala | Leu | Tyr | Ile | Leu | Lys | Asp | Lys | Asp | Ser | Pro | Glu |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Thr | Glu | Glu | Asn | Pro | Ala | Pro | Glu | Pro | Arg | Ser | Ala | Thr | Glu | Pro | Gly |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Pro | Pro | Gly | Tyr | Ser | Val | Ser | Pro | Ala | Val | Pro | Gly | Arg | Ser | Pro | Gly |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Leu | Pro | Ile | Arg | Ser | Ala | Arg | Arg | Tyr | Pro | Arg | Ser | Pro | Ala | Arg | Ser |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Pro | Ala | Thr | Gly | Arg | Thr | His | Ser | Ser | Pro | Pro | Arg | Ala | Pro | Ser | Ser |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Pro | Gly | Arg | Ser | Arg | Ser | Ala | Ser | Arg | Thr | Leu | Arg | Thr | Ala | Gly | Val |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| His | Ile | Ile | Arg | Glu | Gln | Asp | Glu | Ala | Gly | Pro | Val | Glu | Ile | Ser | Ala |
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<210> 17
 <211> 1257
 <212> DNA
 <213> Homo sapiens

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 cgtctgatcc acggcacagt ggggaagtcg gccctgcttt ccgtgcagta cagtagcacc 180
 agcagcgaca agcccgtagt gaagtggcag ctgaagcgtg acaagccagt gaccgtggtg 240
 cagtctatag gcacagaggt cattggcact ctgcggcctg actatcgaga ccgtatccgg 300
 ctctttgaaa atggctcctt gcttctcagc gacctgcagc tggcggatga gggaacctat 360
 gaagtggaga tttccatcac tgacgacacc ttcaccgggg agaagaccat caacctcacc 420
 gtggatgtgc ccatTTcaag gccgcaggta ttagtggctt caaccactgt gctggagctc 480
 agtgaggcct tcacctcaa ctgctcccat gagaatggca ccaagcctag ctacacgtgg 540
 ctgaaggatg gcaaacccct cctcaatgac tcccgaatgc tcctgtcccc tgacaaaaag 600
 gtgctacca tcacccgagt actcatggaa gatgacgacc tgtacagctg tgtggtggag 660
 aaccccatca gccagggtccg cagcctgcct gtcaagatca ctgtgtatag aagaagctcc 720
 ctctatatca tcttgtctac aggaggcatc ttctccttg tgaccctggt gacagtttgt 780
 gcctgtctgga aacctcaaaa aaagtctagg aagaagagga agttggagaa gcaaaaactcc 840
 ttggaataca tggatcagaa tgatgaccgc ctaaaatcag aagcagatac cctaccccca 900
 agtggagaac aggagcggaa gaacccaatg gcaactctata tcctgaagga taaggattcc 960
 tcagagccag atgaaaaccc tgctacagag ccacggagca ccacagaacc cgtccccct 1020
 ggctactccg tgtcgccgcc cgtgcccgcc cgctctccgg ggcttcccat ccgctcagcc 1080
 cgccgctacc cgcgctcccc agcacgttcc cctgccactg gccggacgca cacgtcgcca 1140
 ccgcgggccc cgagctcgcc aggcgctcg cgcagctctt cgcgctcact gcggactgca 1200
 ggcgtgcaga gaatccggga gcaggacgag tcagggcagg tggagatcag tgctga 1257

<210> 18
 <211> 418
 <212> PRT
 <213> Homo sapiens

<400> 18
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 Leu Ser Pro Phe Val Tyr Leu Leu Leu Ile Gln Pro Val Pro Leu Glu
 20 25 30
 Gly Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly
 35 40 45
 Lys Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser Ser Asp Lys
 50 55 60
 Pro Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val
 65 70 75 80
 Gln Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg
 85 90 95
 Asp Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu Ser Asp Leu
 100 105 110
 Gln Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp
 115 120 125

Asp Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val Asp Val Pro
 130 135 140
 Ile Ser Arg Pro Gln Val Leu Val Ala Ser Thr Thr Val Leu Glu Leu
 145 150 155 160
 Ser Glu Ala Phe Thr Leu Asn Cys Ser His Glu Asn Gly Thr Lys Pro
 165 170 175
 Ser Tyr Thr Trp Leu Lys Asp Gly Lys Pro Leu Leu Asn Asp Ser Arg
 180 185 190
 Met Leu Leu Ser Pro Asp Gln Lys Val Leu Thr Ile Thr Arg Val Leu
 195 200 205
 Met Glu Asp Asp Asp Leu Tyr Ser Cys Val Val Glu Asn Pro Ile Ser
 210 215 220
 Gln Val Arg Ser Leu Pro Val Lys Ile Thr Val Tyr Arg Arg Ser Ser
 225 230 235 240
 Leu Tyr Ile Ile Leu Ser Thr Gly Gly Ile Phe Leu Leu Val Thr Leu
 245 250 255
 Val Thr Val Cys Ala Cys Trp Lys Pro Ser Lys Lys Ser Arg Lys Lys
 260 265 270
 Arg Lys Leu Glu Lys Gln Asn Ser Leu Glu Tyr Met Asp Gln Asn Asp
 275 280 285
 Asp Arg Leu Lys Ser Glu Ala Asp Thr Leu Pro Arg Ser Gly Glu Gln
 290 295 300
 Glu Arg Lys Asn Pro Met Ala Leu Tyr Ile Leu Lys Asp Lys Asp Ser
 305 310 315 320
 Ser Glu Pro Asp Glu Asn Pro Ala Thr Glu Pro Arg Ser Thr Thr Glu
 325 330 335
 Pro Gly Pro Pro Gly Tyr Ser Val Ser Pro Pro Val Pro Gly Arg Ser
 340 345 350
 Pro Gly Leu Pro Ile Arg Ser Ala Arg Arg Tyr Pro Arg Ser Pro Ala
 355 360 365
 Arg Ser Pro Ala Thr Gly Arg Thr His Thr Ser Pro Pro Arg Ala Pro
 370 375 380
 Ser Ser Pro Gly Arg Ser Arg Ser Ser Arg Ser Leu Arg Thr Ala
 385 390 395 400
 Gly Val Gln Arg Ile Arg Glu Gln Asp Glu Ser Gly Gln Val Glu Ile
 405 410 415

Ser Ala

<210> 19
 <211> 720
 <212> DNA
 <213> Homo sapiens

<400> 19
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 cgctgatcc atggcaccgt ggggaagtcg gctctgcttt ctgtgcagta cagcagtacc 180
 agcagcgaca ggctgtagt gaagtggcag ctgaagcggg acaagccagt gaccgtgggtg 240
 cagtccattg gcacagaggt catcggcacc ctgcggcctg actatcgaga ccgtatccga 300
 ctctttgaaa atggctccct gcttctcagc gacctgcagc tggccgatga gggcacctat 360
 gaggtcgaga tctccatcac cgacgacacc ttactgggg agaagaccat caaccttact 420
 gtagatgtgc ccatttcgag gccacaggtg ttggtggctt caaccactgt gctggagctc 480
 agcgaggcct tcaccttgaa ctgctcacat gagaatggca ccaagcccag ctacacctgg 540
 ctgaaggatg gcaagcccct cctcaatgac tcgagaatgc tctgtcccc cgaccaaaaag 600
 gtgctcacca tcaccgcgt gctcatggag gatgacgacc tgtacagctg catggtggag 660
 aaccccatca gccagggccg cagcctgcct gtcaagatca ccgtatacag aagaagctcc 720

<210> 20
 <211> 240
 <212> PRT
 <213> Homo sapiens

<400> 20
 Met Lys Arg Glu Arg Gly Ala Leu Ser Arg Ala Ser Arg Ala Leu Arg
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 Leu Ala Pro Phe Val Tyr Leu Leu Leu Ile Gln Thr Asp Pro Leu Glu
 20 25 30
 Gly Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly
 35 40 45
 Lys Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser Ser Asp Arg
 50 55 60
 Pro Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val
 65 70 75 80
 Gln Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg
 85 90 95
 Asp Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu Ser Asp Leu
 100 105 110
 Gln Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp
 115 120 125
 Asp Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val Asp Val Pro
 130 135 140
 Ile Ser Arg Pro Gln Val Leu Val Ala Ser Thr Thr Val Leu Glu Leu
 145 150 155 160
 Ser Glu Ala Phe Thr Leu Asn Cys Ser His Glu Asn Gly Thr Lys Pro

| | | | | | |
|---|-----|--|-----|--|-----|
| | 165 | | 170 | | 175 |
| Ser Tyr Thr Trp Leu Lys Asp Gly Lys Pro Leu Leu Asn Asp Ser Arg | | | | | |
| | 180 | | 185 | | 190 |
| Met Leu Leu Ser Pro Asp Gln Lys Val Leu Thr Ile Thr Arg Val Leu | | | | | |
| | 195 | | 200 | | 205 |
| Met Glu Asp Asp Asp Leu Tyr Ser Cys Met Val Glu Asn Pro Ile Ser | | | | | |
| | 210 | | 215 | | 220 |
| Gln Gly Arg Ser Leu Pro Val Lys Ile Thr Val Tyr Arg Arg Ser Ser | | | | | |
| | 225 | | 230 | | 235 |
| | | | | | 240 |

<210> 21
 <211> 621
 <212> DNA
 <213> Homo sapiens

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 gacaagccag tgaccgtggt gcagtccatt ggcacagagg tcatcggcac cctgcggcct 180
 gactatcgag accgtatccg actctttgaa aatggctccc tgcttctcag cgacctgcag 240
 ctggccgatg agggcaccta tgaggtcgag atctccatca ccgacgacac cttcactggg 300
 gagaagacca tcaaccttac tgtagatgtg cccatttcga ggccacaggt gttggtggct 360
 tcaaccactg tgctggagct cagcgaggcc ttcaccttga actgctcaca tgagaatggc 420
 accaagccca gctacacctg gctgaaggat ggcaagcccc tcctcaatga ctcgagaatg 480
 ctctgtcccc ccgacaaaaa ggtgctcacc atcaccgcgc tgctcatgga ggatgacgac 540
 ctgtacagct gcatggtgga gaaccccatc agccagggcc gcagcctgcc tgtcaagatc 600
 accgtataca gaagaagctc c 621

<210> 22
 <211> 207
 <212> PRT
 <213> Homo sapiens

<400> 22
 Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly Lys
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 20 25 30
 Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val Gln
 35 40 45
 Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg Asp
 50 55 60
 Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu Ser Asp Leu Gln
 65 70 75 80
 Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp Asp
 85 90 95

Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val Asp Val Pro Ile
 100 105 110

Ser Arg Pro Gln Val Leu Val Ala Ser Thr Thr Val Leu Glu Leu Ser
 115 120 125

Glu Ala Phe Thr Leu Asn Cys Ser His Glu Asn Gly Thr Lys Pro Ser
 130 135 140

Tyr Thr Trp Leu Lys Asp Gly Lys Pro Leu Leu Asn Asp Ser Arg Met
 145 150 155 160

Leu Leu Ser Pro Asp Gln Lys Val Leu Thr Ile Thr Arg Val Leu Met
 165 170 175

Glu Asp Asp Asp Leu Tyr Ser Cys Met Val Glu Asn Pro Ile Ser Gln
 180 185 190

Gly Arg Ser Leu Pro Val Lys Ile Thr Val Tyr Arg Arg Ser Ser
 195 200 205

<210> 23

<211> 328

<212> DNA

<213> Homo sapiens

<400> 23

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| tctgtgcagt | acagcagtag | cagcagcgac | aggcctgtag | tgaagtggca | gctgaagcgg | 120 |
| gacaagccag | tgaccgtggt | gcagtcatt | ggcacagagg | tcatcggcac | cctgcggcct | 180 |
| gactatcgag | accgtatccg | actctttgaa | aatggctccc | tgcttctcag | cgacctgcag | 240 |
| ctggccgatg | agggcaccta | tgaggtcgag | atctccatca | ccgacgacac | cttcactggg | 300 |
| gagaagacca | tcaaccttac | tgtagatg | | | | 328 |

<210> 24

<211> 110

<212> PRT

<213> Homo sapiens

<400> 24

Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly Lys
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Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser Ser Asp Arg Pro
 20 25 30

Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val Gln
 35 40 45

Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg Asp
 50 55 60

Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Ser Asp Leu Gln
 65 70 75 80

Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp Asp
 85 90 95

Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val Asp Val
100 105 110

<210> 25
<211> 1152
<212> DNA
<213> Homo sapiens

<400> 25
gtgaacatca ccagccccgt gcgcctgacg catggcaccg tggggaagtc ggctctgctt 60
tctgtgcagt acagcagtac cagcagcgac aggcctgtag tgaagtggca gctgaagcgg 120
gacaagccag tgaccgtggt gcagtcattt ggcacagagg tcatcggcac cctgcggcct 180
gactatcgag accgtatccg actctttgaa aatggctccc tgcttctcag cgacctgcag 240
ctggccgatg agggcaccta tgaggtcgag atctccatca ccgacgacac cttcactggg 300
gagaagacca tcaaccttac tgtagatgtg cccatttcga ggccacaggt gttggtggct 360
tcaaccactg tgctggagct cagcgaggcc ttcaccttga actgctcaca tgagaatggc 420
accaagccca gctacacctg gctgaaggat ggcaagcccc tcctcaatga ctcgagaatg 480
ctcctgtccc ccgacaaaaa ggtgctcacc atcaccgcg tgctcatgga ggatgacgac 540
ctgtacagct gcatgggtgga gaacccccatc agccaggggc gcagcctgcc tgtcaagatc 600
accgtatata gaagaagctc cctttacatc atcttgtcta caggaggcat cttcctcctt 660
gtgaccttgg tgacagtctg tgcctgctgg aaaccctcca aaaggaaaca gaagaagcta 720
gaaaagcaaa actccctgga atacatggat cagaatgatg accgcctgaa accagaagca 780
gacaccctcc ctcgaagtgg tgagcaggaa cggaagaacc ccatggcact ctatatcctg 840
aaggacaagg actccccgga gaccgaggag aaccgggccc cggagcctcg aagcgcgacg 900
gagcccggcc cgcccggcta ctccgtgtct cccgccgtgc ccggccgctc gccggggctg 960
cccattccgt ctgcccgcg ctaccgcgc tcccagcgc gctcccagc caccggccgg 1020
acacactcgt cgccgcccag ggccccgagc tcgcccggcc gctcgcgag cgcctcgcg 1080
acactgcgga ctgcggggcgt gcacataatc cgcgagcaag acgaggccgg cccggtggag 1140
atcagcgct ga 1152

<210> 26
<211> 383
<212> PRT
<213> Homo sapiens

<400> 26
Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly Lys
1 5 10 15
Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser Ser Asp Arg Pro
20 25 30
Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val Gln
35 40 45
Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg Asp
50 55 60
Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu Ser Asp Leu Gln
65 70 75 80
Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp Asp
85 90 95
Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val Asp Val Pro Ile
100 105 110

<220>
 <223> GCP Forward Primer

 <400> 27
 ggggacaagt ttgtacaaaa aagcaggctt cgccacc 37

 <210> 28
 <211> 51
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> GCP Reverse Primer

 <400> 28
 ggggaccact ttgtacaaga aagctggggt tcaatgggtga tggatgatggt g 51

 <210> 29
 <211> 41
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> INSP052-B1P-exon1F Primer

 <400> 29
 gcaggcttcg ccaccatgaa gagagaaagg ggagccctgt c 41

 <210> 30
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> INSP052-exon1R Primer

 <400> 30
 tcacccccctc caggggggtct gtctggatca gaagaa 36

 <210> 31
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> INSP052-exon2F Primer

 <400> 31
 ttcttctgat ccagacagac cccctggagg ggggtga 36

 <210> 32
 <211> 36
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> INSP052-exon2R Primer

| | | |
|--|-----------------------|----|
| <400> | 32 | |
| gtggcctcga aatgggcaca tctacagtaa ggttga | | 36 |
| <210> | 33 | |
| <211> | 36 | |
| <212> | DNA | |
| <213> | Artificial Sequence | |
| <220> | | |
| <223> | INSP052-exon3F Primer | |
| <400> | 33 | |
| caaccttact gtagatgtgc ccatttcgag gccaca | | 36 |
| <210> | 34 | |
| <211> | 32 | |
| <212> | DNA | |
| <213> | Artificial Sequence | |
| <220> | | |
| <223> | INSP052-exon3R Primer | |
| <400> | 34 | |
| ggagcttctt ctgtatacgg tgatcttgac ag | | 32 |
| <210> | 35 | |
| <211> | 35 | |
| <212> | DNA | |
| <213> | Artificial Sequence | |
| <220> | | |
| <223> | INSP052-5HIS-R Primer | |
| <400> | 35 | |
| gtgatgggtga tgggtgggagc ttcttctgta tacgg | | 35 |
| <210> | 36 | |
| <211> | 20 | |
| <212> | DNA | |
| <213> | Artificial Sequence | |
| <220> | | |
| <223> | pEAK12-F Primer | |
| <400> | 36 | |
| gccagcttgg cacttgatgt | | 20 |
| <210> | 37 | |
| <211> | 20 | |
| <212> | DNA | |
| <213> | Artificial Sequence | |
| <220> | | |
| <223> | pEAK12-R Primer | |
| <400> | 37 | |

gatggagggtg gacgtgtcag

20

<210> 38
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> pENTR-F1 Primer

<400> 38
tcgcgттаac gctagcatgg atctc

25

<210> 39
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> pENTR-R1 Primer

<400> 39
gtaacatcag agatттtgag acac

24

<210> 40
<211> 2024
<212> DNA
<213> Homo sapiens

<400> 40
atgaagagag aaaggggagc cctgtccaga gcctccaggg ccctgcgcct tgctcctttt 60
gtctaccttc ttctgatcca gacagacccc ctggaggggg tgaacatcac cagccccgtg 120
cgcctgatcc atggcaccgt ggggaagtgc gctctgcttt ctgtgcagta cagcagtacc 180
agcagcgaca ggctgtagt gaagtggcag ctgaagcggg acaagccagt gaccgtggtg 240
cagtccattg gcacagaggt catcggcacc ctgcggcctg actatcgaga ccgtatccga 300
ctctttgaaa atggctccct gcttctcagc gacctgcagc tggccgatga gggcacctat 360
gaggtcgaga tctccatcac cgacgacacc ttcactgggg agaagaccat caaccttact 420
gtagatgtgc ccatттcgag gccacaggtg ttggtggctt caaccactgt gctggagctc 480
agcgaggcct tcaccttgaa ctgctcacat gagaatggca ccaagcccag ctacacctgg 540
ctgaaggatg gcaagcccct cctcaatgac tcgagaatgc tcctgtcccc cgaccaaаag 600
gtgctcacca tcacccgcgt gctcatggag gatgacgacc tgtacagctg catggtggag 660
aaccatca gccaggggccg cagcctgcct gtcaagatca ccgtatacag aagaagctcc 720
ctttacatca tcttgtctac aggaggcatc ttctccttg tgaccttggg gacagtctgt 780
gcctgctgga aaccctcaa aaggaaacag aagaagctag aaaagcaaaa ctccctggaa 840
tacatggatc agaatgatga ccgcctgaaa ccagaagcag acaccctccc tcgaagtggg 900
gagcaggaac ggaagaaccc catggcactc tatatcctga aggacaagga ctccccggag 960
accgaggaga acccgggccc ggagcctcga agcgcgacgg agcccgggcc gcccggtac 1020
tccgtgtctc ccgcctgtgc cggccgctcg ccggggctgc ccatccgctc tgcccgccgc 1080
taccgcgct cccagcgcg ctccccagcc accggccgga cacactcgtc gccgcccagg 1140
gccccgagct cgcccgggccg ctgcgcgagc gcctcgcgca cactgcggac tgcgggctg 1200
cacataatcc gcgagcaaga cgaggccggc ccggtggaga tcagcgctg agccgcctcg 1260
gatcccctga gaggcgccc cggtctgcgg ccagtggccc gggggaaagc tggggctggg 1320
aagcccgggc gcggcgcgct ggggacgagg ggaggtccc gggggcgct ggtgtctcgg 1380
gtgtgaacgt gtatgagcat gcgcagacgg aggcgggtgc gcggaggcgg cagtgttgat 1440
atggtgaaac cgggtcgcat ttgcttccgg tttactggct gtgtcctcac ttggtatagg 1500
ttgtgcctc ttaggaccac atagattatt acatttctgg cccaataccc aaaagggttt 1560
tatggaaaact aacatcagta acctaaccac cgtgactatc ctgtgctctt cctagggagc 1620

| | | | | | | |
|-------------|-------------|------------|------------|-------------|------------|------|
| tgtgttgttt | cccacccacc | acccttcct | ctgaacaaat | gcctgagtgc | tggggcactt | 1680 |
| tttttttttt | tttttttttt | tttttttttg | caagttcaga | ttagagagggc | cactttccca | 1740 |
| gaatccacag | ctgcactaag | ctaaggagaa | gccagatgcc | ggttactggg | tgtgcagggg | 1800 |
| ctgttctgag | ctgggggggat | cattgtgaag | gccttcttcc | ctgggcacct | ggtacctggg | 1860 |
| gacctacaag | gtgggtgaggg | aagggtacga | gtacattcct | tttccctctg | acctggggcg | 1920 |
| tagcaagggc | aaagaacccg | agcctgccag | cttggcctcc | tcccacagcc | tcctcggag | 1980 |
| gcattgccatg | ccaagcactc | tttctgtctc | tgttcatgaa | taaa | | 2024 |

<210> 41
 <211> 416
 <212> PRT
 <213> Homo sapiens

<400> 41
 Met Lys Arg Glu Arg Gly Ala Leu Ser Arg Ala Ser Arg Ala Leu Arg
 1 5 10 15
 Leu Ala Pro Phe Val Tyr Leu Leu Leu Ile Gln Thr Asp Pro Leu Glu
 20 25 30
 Gly Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly
 35 40 45
 Lys Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser Ser Asp Arg
 50 55 60
 Pro Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val
 65 70 75 80
 Gln Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg
 85 90 95
 Asp Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu Ser Asp Leu
 100 105 110
 Gln Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp
 115 120 125
 Asp Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val Asp Val Pro
 130 135 140
 Ile Ser Arg Pro Gln Val Leu Val Ala Ser Thr Thr Val Leu Glu Leu
 145 150 155 160
 Ser Glu Ala Phe Thr Leu Asn Cys Ser His Glu Asn Gly Thr Lys Pro
 165 170 175
 Ser Tyr Thr Trp Leu Lys Asp Gly Lys Pro Leu Leu Asn Asp Ser Arg
 180 185 190
 Met Leu Leu Ser Pro Asp Gln Lys Val Leu Thr Ile Thr Arg Val Leu
 195 200 205
 Met Glu Asp Asp Asp Leu Tyr Ser Cys Met Val Glu Asn Pro Ile Ser
 210 215 220
 Gln Gly Arg Ser Leu Pro Val Lys Ile Thr Val Tyr Arg Arg Ser Ser

| | | | |
|---|---------------------------------|-----------------------------|-----|
| 225 | 230 | 235 | 240 |
| Leu Tyr Ile Ile | Leu Ser Thr Gly Gly | Ile Phe Leu Leu Val Thr Leu | |
| | 245 | 250 | 255 |
| Val Thr Val Cys Ala Cys Trp Lys | Pro Ser Lys Arg Lys Gln Lys Lys | | |
| | 260 | 265 | 270 |
| Leu Glu Lys Gln Asn Ser Leu Glu Tyr Met Asp Gln Asn Asp Asp Arg | | | |
| | 275 | 280 | 285 |
| Leu Lys Pro Glu Ala Asp Thr Leu Pro Arg Ser Gly Glu Gln Glu Arg | | | |
| | 290 | 295 | 300 |
| Lys Asn Pro Met Ala Leu Tyr Ile Leu Lys Asp Lys Asp Ser Pro Glu | | | |
| 305 | 310 | 315 | 320 |
| Thr Glu Glu Asn Pro Ala Pro Glu Pro Arg Ser Ala Thr Glu Pro Gly | | | |
| | 325 | 330 | 335 |
| Pro Pro Gly Tyr Ser Val Ser Pro Ala Val Pro Gly Arg Ser Pro Gly | | | |
| | 340 | 345 | 350 |
| Leu Pro Ile Arg Ser Ala Arg Arg Tyr Pro Arg Ser Pro Ala Arg Ser | | | |
| | 355 | 360 | 365 |
| Pro Ala Thr Gly Arg Thr His Ser Ser Pro Pro Arg Ala Pro Ser Ser | | | |
| | 370 | 375 | 380 |
| Pro Gly Arg Ser Arg Ser Ala Ser Arg Thr Leu Arg Thr Ala Gly Val | | | |
| 385 | 390 | 395 | 400 |
| His Ile Ile Arg Glu Gln Asp Glu Ala Gly Pro Val Glu Ile Ser Ala | | | |
| | 405 | 410 | 415 |

<210> 42
 <211> 860
 <212> DNA
 <213> Homo sapiens

| | |
|--|-----|
| <400> 42 | |
| acaagtttgt acaaaaaagc aggccttcgcc accatgaaga gagaaagggg agccctgtcc | 60 |
| agagcctcca gggccctgcg ccttgctcct tttgtctacc ttcttctgat ccagacagac | 120 |
| cccctggagg ggggtgaacat caccagcccc gtgcgcctga tccatggcac cgtggggaag | 180 |
| tcggctctgc tttctgtgca gtacagcagt accagcagcg acaggcctgt agtgaagtgg | 240 |
| cagctgaagc gggacaagcc agtgaccgtg gtgcagtcca ttggcacaga ggtcatcggc | 300 |
| acctgcggc ctgactatcg agaccgtatc cgactctttg aaaatggctc cctgcttctc | 360 |
| agcgacctgc agctggccga tgagggcacc tatgaggtcg agatctccat caccgacgac | 420 |
| accttcactg gggagaagac catcaacctt actgtagatg tgcccatttc gaggccacag | 480 |
| accttcactg gggagaagac catcaacctt actgtagatg tgcccatttc gaggccacag | 540 |
| gtgttggtgg cttcaaccac tgtgctggag ctcagcgagg ccttcacctt gaactgctca | 600 |
| catgagaatg gcaccaagcc cagctacacc tggctgaagg atggcaagcc cctcctcaat | 660 |
| gactcgagaa tgctcctgtc ccccgaccaa aagggtgctca ccatcacccg cgtgctcatg | 720 |
| gaggatgacg acctgtacag ctgcatggtg gagaaccca tcagccaggg ccgcagcctg | 780 |
| cctgtcaaga tcaccgtata cagaagaagc tcccaccatc accatcacca ttgaaaccca | 840 |
| gctttcttgt acaaaagtggt | 860 |

<210> 43
<211> 246
<212> PRT
<213> Homo sapiens

<400> 43

Met Lys Arg Glu Arg Gly Ala Leu Ser Arg Ala Ser Arg Ala Leu Arg
1 5 10 15
Leu Ala Pro Phe Val Tyr Leu Leu Leu Ile Gln Thr Asp Pro Leu Glu
20 25 30
Gly Val Asn Ile Thr Ser Pro Val Arg Leu Ile His Gly Thr Val Gly
35 40 45
Lys Ser Ala Leu Leu Ser Val Gln Tyr Ser Ser Thr Ser Ser Asp Arg
50 55 60
Pro Val Val Lys Trp Gln Leu Lys Arg Asp Lys Pro Val Thr Val Val
65 70 75 80
Gln Ser Ile Gly Thr Glu Val Ile Gly Thr Leu Arg Pro Asp Tyr Arg
85 90 95
Asp Arg Ile Arg Leu Phe Glu Asn Gly Ser Leu Leu Leu Ser Asp Leu
100 105 110
Gln Leu Ala Asp Glu Gly Thr Tyr Glu Val Glu Ile Ser Ile Thr Asp
115 120 125
Asp Thr Phe Thr Gly Glu Lys Thr Ile Asn Leu Thr Val Asp Val Pro
130 135 140
Ile Ser Arg Pro Gln Val Leu Val Ala Ser Thr Thr Val Leu Glu Leu
145 150 155 160
Ser Glu Ala Phe Thr Leu Asn Cys Ser His Glu Asn Gly Thr Lys Pro
165 170 175
Ser Tyr Thr Trp Leu Lys Asp Gly Lys Pro Leu Leu Asn Asp Ser Arg
180 185 190
Met Leu Leu Ser Pro Asp Gln Lys Val Leu Thr Ile Thr Arg Val Leu
195 200 205
Met Glu Asp Asp Asp Leu Tyr Ser Cys Met Val Glu Asn Pro Ile Ser
210 215 220
Gln Gly Arg Ser Leu Pro Val Lys Ile Thr Val Tyr Arg Arg Ser Ser
225 230 235 240
His His His His His His
245